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10 20 30 40 50 60  
 5 ' ATTCAAAACACTGCAGAATTTGGATAGATTCCTGCTACTCACACGCATAAAAGACA  
 70 80 90 100 110 120  
 AGAAAAGATGAGTAAAGGAGCAGAACCTTCACTGGAGTTGTCCCAATTCTTATTGAATTA  
 M S K G A E L F T G V V P I L I E L  
 130 140 150 160 170 180  
 AATGGTGTGATGTTAATGGGCACAAATTCTCTGTCAGTGGAGAGGGCGAAGGTGATGCGACA  
 N G D V N G H K F S V S G E G E G D A T  
 190 200 210 220 230 240  
 TACGGAAAGTTAACCTTAAATTATTTGCACTACAGGAAACTACCTGTTCCATGGCCA  
 Y G K L T L K F I C T T G K L P V P W P  
 250 260 270 280 290 300  
 ACACATTGTCACTACTTCTCTTATGGTGTCAATGCTTTCAAGATATCCAGATCATATG  
 T L V T T F S Y G V Q C F S R Y P D H M  
 310 320 330 340 350 360  
 AACACAGCATGACTTCTTCAAGAGTGCCATGCCTGAAGGTTATATACAGGAAAGAACTATA  
 K Q H D F F K S A M P E G Y I Q E R T I  
 370 380 390 400 410 420  
 TTTTCAAAGATGACGGGAACACTACAAGTCGCGTGTGAAGTCAAGTTGAAAGGTGATACC  
 F F K D D G N Y K S R A E V K F E G D T  
 430 440 450 460 470 480  
 CTGGTTAATAGAATTGAGTTAACAGGTACTGATTTAAAGAAGATGAAACATCCTTGGA  
 L V N R I E L T G T D F K E D G N I L G  
 490 500 510 520 530 540  
 AATAAAATGGAATACAACTATAACGCACATAATGTATACATCATGACAGACAAAGCAAAA  
 N K M E Y N Y N A H N V Y I M T D K A K  
 550 560 570 580 590 600  
 AATGGAATCAAAGTTAACCTCAAAATTAGACACAAACATTGAAGATGGAAGCGTTCAACTT  
 N G I K V N F K I R H N I E D G S V Q L  
 610 620 630 640 650 660  
 GCAGACCATTATCAACAAAATACTCCAATTGGCGATGGCCCTGTCTTTACCAAGATAAC  
 A D H Y Q Q N T P I G D G P V L L P D N  
 670 680 690 700 710 720  
 CATTACCTGTCACACAAATCTACCCCTTCCAAAGATCCCACGAAAAGAGAGATCACATG  
 H Y L S T Q S T L S K D P N E K R D H M  
 730 740 750 760 770 780  
 ATCTATTTGAGTTGTAACAGCTGCTGCGATTACACATGGCATGGATGAATTATACAAA  
 I Y F E F V T A A A I T H G M D E L Y K  
 790 800 810 820 830 840  
 TAAATGTATAGACTTCAAGTTGACACTAACGTGTCCGAACAATTACTAAAATCTCAGGGT  
 850 860 870 880 890 900  
 TCCTGGTTAAAATCAGGCTGAGATATTATTCATATTATAGATTCAATTAGATTATTTA  
 910 920 930 940  
 AATACTTTATAGATGTTATTGATAGGGTTATTTCTTATT 3 '

FIG. 1

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|       |                      |              |             |             |              |                 |             |
|-------|----------------------|--------------|-------------|-------------|--------------|-----------------|-------------|
|       | 10                   | 20           | 30          | 40          | 50           |                 |             |
| GFP   | MSKGEELE             | TGVVPHILME   | EDCDVNGHKE  | SVSCEGE     | EGDATY       | SKETTKRIGTTGKLE |             |
| acGFP | ----A--              | -----E-----  | -----H----- | -----S----- | -----T-----  | -----K-----     |             |
|       | I                    |              |             |             |              |                 |             |
|       | 60                   | 70           | 80          | 90          | 100          | 110             |             |
| GFP   | IVATTSVCGVO          | ESRMPDHMKQHD | EAKSAMPEGV  | VGCERTIF    | KKDDGNM      | KTRRAEVK        |             |
| acGFP | -----L-----          | -----S-----  | -----I----- | -----I----- | -----I-----  | -----E-----     |             |
|       | L                    |              |             |             |              |                 |             |
|       | 120                  | 130          | 140         | 150         | 160          | 170             |             |
| GFP   | EVNRTEEK             | GIDEKE       | DGNLGHK     | KEVNNSHN    | YEMADKOKNG   | EKVNEKTRHN      | IEDGSVQL    |
| acGFP | -----K-----          | -----E-----  | -----T----- | -----N----- | -----M-----  | -----A-----     | -----T----- |
|       |                      |              |             |             |              |                 |             |
|       | 180                  | 190          | 200         | 210         | 220          | 230             |             |
| GFP   | ADHYDQNTPIGDGPVLLPDN | YTSIQSAI     | SKDPNEKRDH  | MVELEF      | TAAGITHGMDEL | YK              |             |
| acGFP | -----D-----          | -----S-----  | -----A----- | -----F----- | -----I-----  | -----A-----     |             |
|       |                      |              |             |             |              |                 |             |
|       |                      |              |             | A           |              | G               |             |

FIG. 2

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |                |     |     |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|-----|-----|--|-----|
| 1   | ATG | AGT | AAA | GGA | GCA | GAA | CIT | TTC | ACT | GGA | GCT | GTC | CCA | ATT            | CIT | ATT |  | 48  |
| 1   | M   | S   | K   | G   | A   | E   | L   | F   | T   | G   | A   | V   | P   | I              | L   | I   |  | 16  |
| 49  | GAA | TIA | AAT | GGT | GAT | GIT | AAT | GGG | CAC | AAA | TIC | TCT | GTC | AGT            | GGA | GAG |  | 96  |
| 17  | E   | L   | N   | G   | D   | V   | N   | G   | H   | K   | F   | S   | V   | S              | G   | E   |  | 32  |
| 97  | GGC | GAA | GGT | GAT | GCG | ACA | TAC | GGA | AAG | TIA | ACC | CIT | AAA | TIT            | ATT | TGC |  | 144 |
| 33  | G   | E   | G   | D   | A   | T   | Y   | G   | K   | L   | T   | L   | K   | F              | I   | C   |  | 48  |
| 145 | ACT | ACA | GGA | AAA | CIA | CCT | GIT | CCA | TGG | CCA | ACA | CIT | GTC | ACT            | ACT | TTC |  | 192 |
| 49  | T   | T   | G   | K   | L   | P   | V   | P   | W   | P   | T   | L   | V   | T              | T   | F   |  | 64  |
| 193 | TCT | TAT | GGT | GIT | CAA | TGC | TTT | TCA | AGA | TAT | CCA | GAT | CAT | ATG            | AAA | CAG |  | 240 |
| 65  | S   | Y   | G   | V   | Q   | C   | F   | S   | R   | Y   | P   | D   | H   | M              | K   | Q   |  | 80  |
| 241 | CAT | GAC | TIC | TIC | AAG | AGT | GCC | ATG | CCT | GAA | GGT | TAT | ATA | CAG            | GAA | AGA |  | 288 |
| 81  | H   | D   | F   | F   | K   | S   | A   | M   | P   | E   | G   | Y   | I   | Q              | E   | R   |  | 96  |
| 289 | ACT | ATA | TIT | TIC | AAA | GAT | GAC | GGG | AAC | TAC | AAG | TCG | CGT | GCT            | GAA | GIC |  | 336 |
| 97  | T   | I   | F   | F   | K   | D   | D   | G   | N   | Y   | K   | S   | R   | A              | E   | V   |  | 112 |
| 337 | AAG | TIC | GAA | GGT | GAT | ACC | CIG | GIT | AAT | AGA | ATT | GAG | TIA | ACA            | GGT | ACT |  | 384 |
| 113 | K   | F   | E   | G   | D   | T   | L   | V   | N   | R   | I   | E   | L   | T              | G   | T   |  | 128 |
| 385 | GAT | TIT | AAA | GAA | GAT | GGA | AAC | AIC | CIT | GAA | AAT | AAA | ATG | GAA            | TAC | AAC |  | 432 |
| 129 | D   | F   | K   | E   | D   | G   | N   | I   | L   | G   | N   | K   | M   | E              | Y   | N   |  | 144 |
| 433 | TAT | AAC | GCA | CAT | AAT | GTA | TAC | AIC | ATG | ACA | GAC | AAA | GCA | AAA            | AAT | GCA |  | 480 |
| 145 | Y   | N   | A   | H   | N   | V   | Y   | I   | M   | T   | D   | K   | A   | K              | N   | G   |  | 160 |
| 481 | AIC | AAA | GIT | AAC | TIC | AAA | ATT | AGA | CAC | AAC | ATT | GAA | GAT | GGA            | AGC | GIT |  | 528 |
| 161 | I   | K   | V   | N   | F   | K   | I   | R   | H   | N   | I   | E   | D   | G              | S   | V   |  | 176 |
| 529 | CAA | CIT | GCA | GAC | CAT | TAT | CAA | CAA | AAT | ACT | CCA | ATT | GGC | GAT            | GGC | CCT |  | 576 |
| 177 | Q   | L   | A   | D   | H   | Y   | Q   | Q   | N   | T   | P   | I   | G   | D              | G   | P   |  | 192 |
| 577 | GIC | CIT | TIA | CCA | GAT | AAC | CAT | TAC | CIG | TIC | ACA | CAA | TCT | ACC            | CIT | TCC |  | 624 |
| 193 | V   | L   | L   | P   | D   | N   | H   | Y   | L   | S   | T   | Q   | S   | T              | L   | S   |  | 208 |
| 625 | AAA | GAT | CCC | AAC | GAA | AAG | AGA | GAT | CAC | ATG | ATG | TAT | TTT | <sup>G</sup> G | TTT | GTA |  | 672 |
| 209 | K   | D   | P   | N   | E   | K   | R   | D   | H   | M   | I   | Y   | F   | <sup>G</sup>   | F   | V   |  | 224 |
| 673 | ACA | GCT | GCT | GCG | ATT | ACA | CAT | GCC | ATG | GAT | GAA | TIA | TAC | AAA            | TAA |     |  | 717 |
| 225 | T   | A   | A   | A   | I   | T   | H   | G   | M   | D   | E   | L   | Y   | K              | *   |     |  | 239 |

FIG. 3

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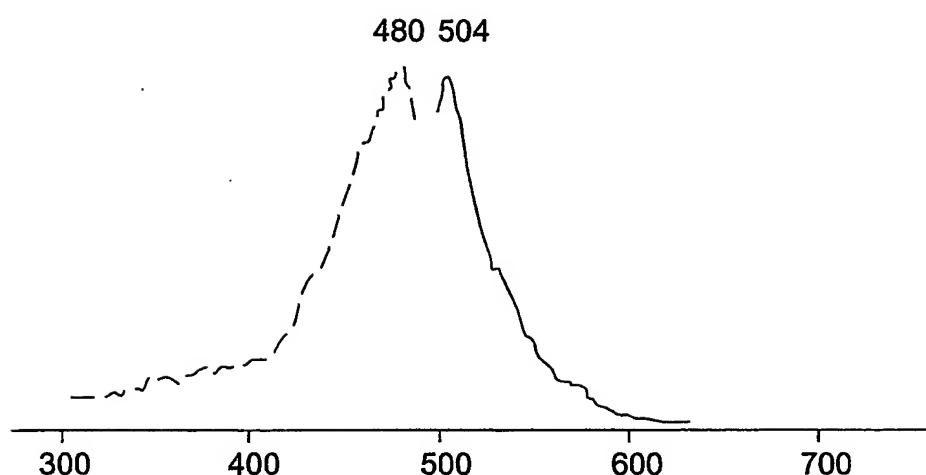


FIG. 4

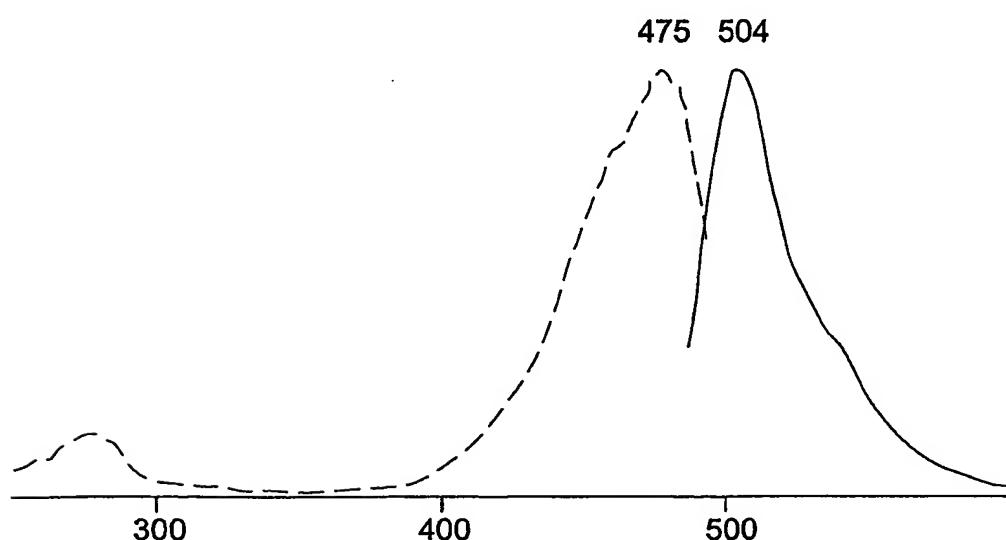


FIG. 8

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|
| 1   | ATG | AGT | AAA | GGA | GCA | GAA | CIT | TTC | ACT | GGA | GCT | GTC | CCA | ATT | CIT | ATT |  | 48  |
| 1   | M   | S   | K   | G   | A   | E   | L   | F   | T   | G   | A   | V   | P   | I   | L   | I   |  | 16  |
| 49  | GAA | TTA | GAT | GGT | GAT | GTT | AAT | GGG | CAC | AAA | TTC | TCT | GTC | AGT | GGA | GAG |  | 96  |
| 17  | E   | L   | D   | G   | D   | V   | N   | G   | H   | K   | F   | S   | V   | S   | G   | E   |  | 32  |
| 97  | GGC | GAA | GGT | GAT | GGG | ACA | TAC | GGA | AAG | TTA | ACC | CIT | AAA | TTT | ATT | TGC |  | 144 |
| 33  | G   | E   | G   | D   | A   | T   | Y   | G   | K   | L   | T   | L   | K   | F   | I   | C   |  | 48  |
| 145 | ACT | ACA | GGA | AAA | CIA | CCT | GTT | CCA | TGG | CCA | ACA | CIT | GTC | ACT | ACT | TTC |  | 192 |
| 49  | T   | T   | G   | K   | L   | P   | V   | P   | W   | P   | T   | L   | V   | T   | T   | F   |  | 64  |
| 193 | TCT | TAT | GGT | GTT | CAA | TGC | TTT | TCA | AGA | TAT | CCA | GAT | CAT | ATG | AAA | CAG |  | 240 |
| 65  | S   | Y   | G   | V   | Q   | C   | F   | S   | R   | Y   | P   | D   | H   | M   | K   | Q   |  | 80  |
| 241 | CAT | GAC | TTC | TTC | AAG | AGT | GCC | ATG | CCT | GAA | GGT | TAT | ATA | CAG | GAA | AGA |  | 288 |
| 81  | H   | D   | F   | F   | K   | S   | A   | M   | P   | E   | G   | Y   | I   | Q   | E   | R   |  | 96  |
| 289 | ACT | ATA | TTT | TTC | AAA | GAT | GAC | GGG | AAC | TAC | AAG | TOG | CGT | GCT | GAA | GTC |  | 336 |
| 97  | T   | I   | F   | F   | K   | D   | D   | G   | N   | Y   | K   | S   | R   | A   | E   | V   |  | 112 |
| 337 | AAG | TTC | GAA | GGT | GAT | ACC | CIG | GTT | AAT | AGA | ATT | GAG | TTA | ACA | GGT | ACT |  | 384 |
| 113 | K   | F   | E   | G   | D   | T   | L   | V   | N   | R   | I   | E   | L   | T   | G   | T   |  | 128 |
| 385 | GAT | TTT | AAA | GAA | GAT | GGA | AAC | ATC | CIT | GGA | AAT | AAA | ATG | GAA | TAC | AAC |  | 432 |
| 129 | D   | F   | K   | E   | D   | G   | N   | I   | L   | G   | N   | K   | M   | E   | Y   | N   |  | 144 |
| 433 | TAT | AAC | GCA | CAT | AAT | GTA | TAC | ATC | ATG | ACA | GAC | AAA | GCA | AAA | AAT | GGA |  | 480 |
| 145 | Y   | N   | A   | H   | N   | V   | Y   | I   | M   | T   | D   | K   | A   | K   | N   | G   |  | 160 |
| 481 | ATC | AAA | GTT | AAC | TTC | AAA | ATT | AGA | CAC | AAC | ATT | GAA | GAT | GGA | AGC | GTT |  | 528 |
| 161 | I   | K   | V   | N   | F   | K   | I   | R   | H   | N   | I   | E   | D   | G   | S   | V   |  | 176 |
| 529 | CAA | CIT | GCA | GAC | CAT | TAT | CAA | CAA | AAT | ACT | CCA | ATT | GGC | GAT | GCC | CCT |  | 576 |
| 177 | Q   | L   | A   | D   | H   | Y   | Q   | Q   | N   | T   | P   | I   | G   | D   | G   | P   |  | 192 |
| 577 | GTC | CIT | TTA | CCA | GAT | AAC | CAT | TAC | CTG | TCC | ACA | CAA | TCT | ACC | CIT | TCC |  | 624 |
| 193 | V   | L   | L   | P   | D   | N   | H   | Y   | L   | S   | T   | Q   | S   | T   | L   | S   |  | 208 |
| 625 | AAA | GAT | CCC | AAC | GAA | AAG | AGA | GAT | CAC | ATG | ATC | TAT | TTT | GGG | TTT | GTA |  | 672 |
| 209 | K   | D   | P   | N   | E   | K   | R   | D   | H   | M   | I   | Y   | F   | G   | F   | V   |  | 224 |
| 673 | ACA | GCT | GCT | GCG | ATT | ACA | CAT | GGC | ATG | GAT | GAA | TTA | TAC | AAA | TAA |     |  | 717 |
| 225 | T   | A   | A   | A   | I   | T   | H   | G   | M   | D   | E   | L   | Y   | K   | *   |     |  | 239 |

FIG. 5

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FIG. 6

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|     |   |   |   |   |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|---|---|---|---|
| 1   | A | T | G | A | G | T | A | T | C | T | G |
| 1   | M | S | K | G | A | E | L | F | T | G | I |
| 49  | G | A | A | T | A | T | G | G | T | C | T |
| 17  | E | L | N | G | D | V | N | G | H | K | F |
| 97  | G | G | C | A | G | T | G | C | A | T | T |
| 33  | G | E | G | D | A | T | Y | G | K | L | T |
| 145 | A | C | A | G | A | A | C | T | G | T | C |
| 49  | T | T | G | K | L | P | V | P | W | P | T |
| 193 | T | C | T | T | A | G | G | T | A | T | G |
| 65  | S | Y | G | V | Q | C | F | S | R | Y | P |
| 241 | C | A | T | G | T | T | A | A | G | G | A |
| 81  | H | D | F | F | K | S | A | M | P | E | G |
| 289 | A | C | T | A | T | T | T | G | A | G | T |
| 97  | T | I | F | F | E | D | D | G | N | Y | K |
| 337 | A | A | G | T | C | A | C | C | G | T | A |
| 113 | K | F | E | G | D | T | L | V | N | R | I |
| 385 | G | A | T | T | A | A | G | A | T | A | C |
| 129 | D | F | K | E | D | G | N | I | L | G | N |
| 433 | T | A | A | C | C | A | T | A | T | A | G |
| 145 | Y | N | A | H | N | V | Y | I | M | T | D |
| 481 | A | T | C | A | A | G | T | A | T | A | G |
| 161 | I | K | V | N | F | K | I | R | H | N | I |
| 529 | C | A | C | T | G | A | C | T | A | T | G |
| 177 | Q | L | A | D | H | Y | Q | Q | N | T | P |
| 577 | G | T | C | T | T | A | C | A | T | C | T |
| 193 | V | L | L | P | D | N | H | Y | L | S | T |
| 625 | A | A | A | G | A | A | G | A | T | T | G |
| 209 | K | D | P | N | E | K | R | D | H | M | I |
| 673 | A | C | A | C | T | G | C | A | T | A | A |
| 225 | T | A | A | A | I | T | H | G | M | D | E |
|     |   |   |   |   |   |   |   |   |   |   | * |
|     |   |   |   |   |   |   |   |   |   |   |   |

FIG. 7

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FIG. 9

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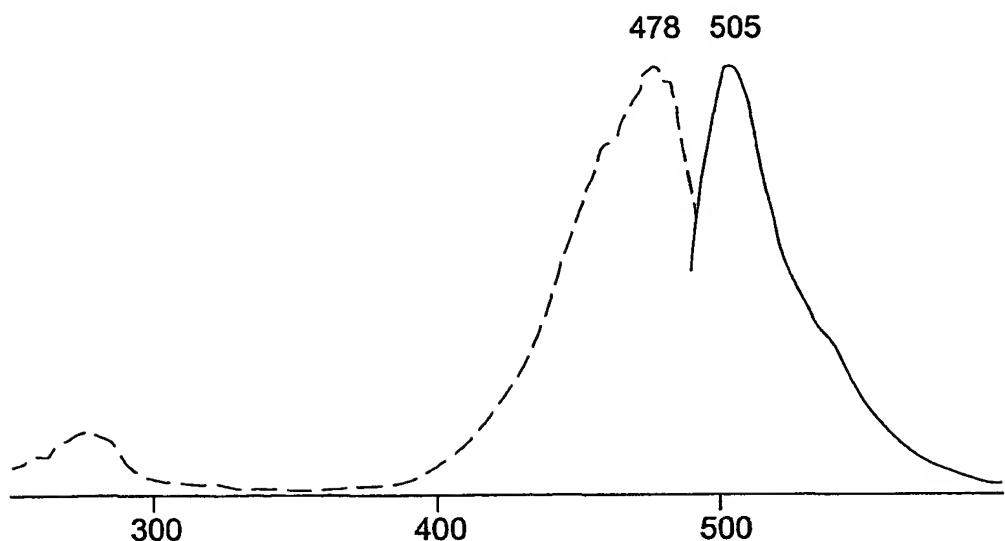


FIG. 10

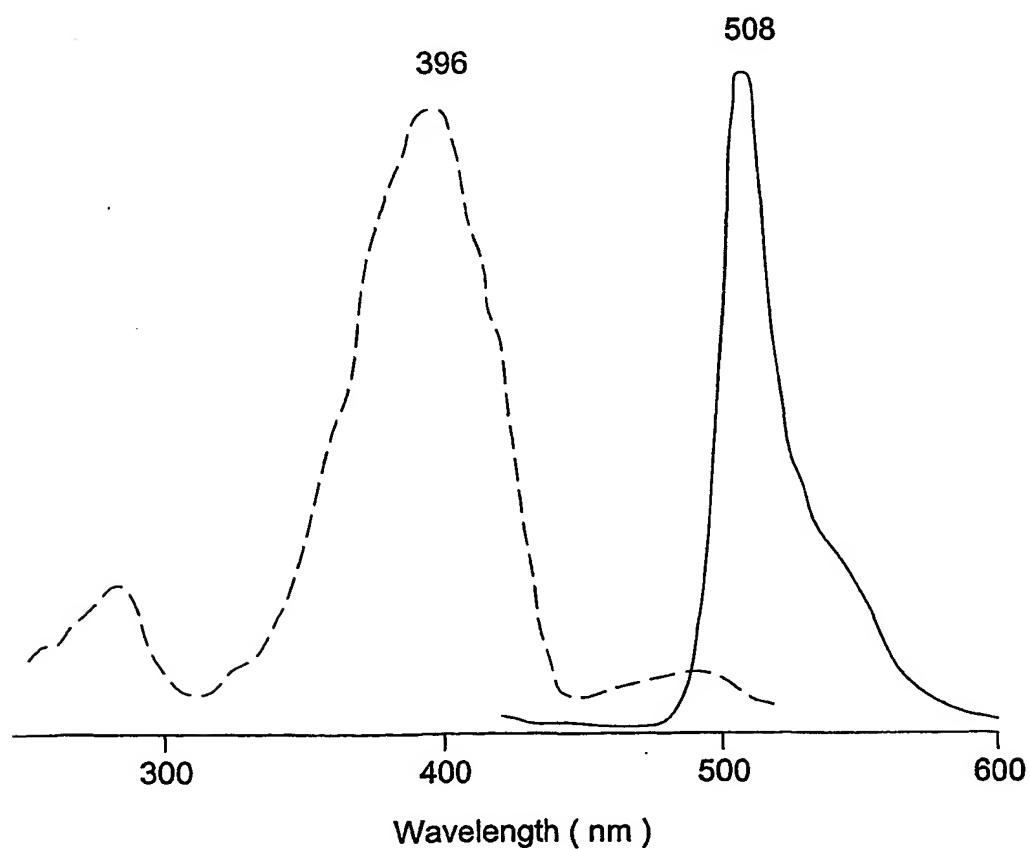


FIG. 16

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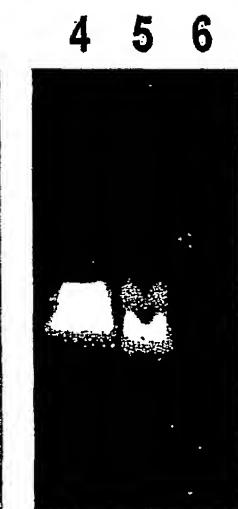
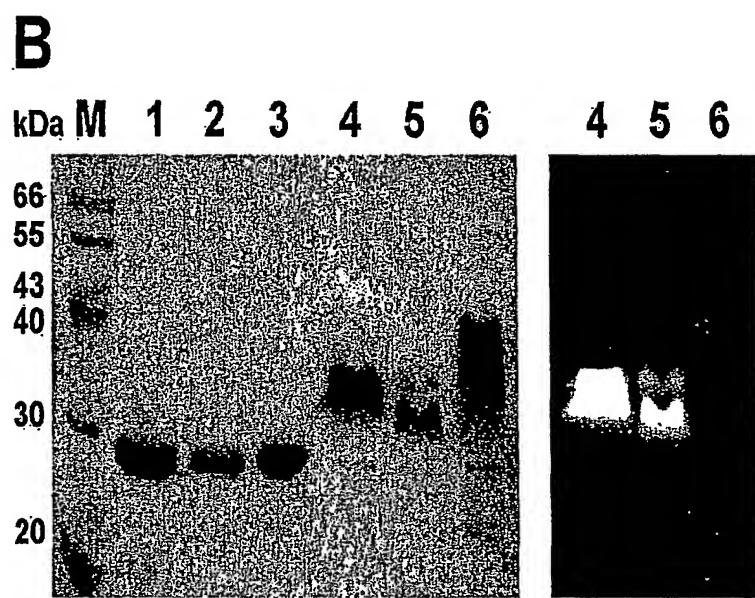
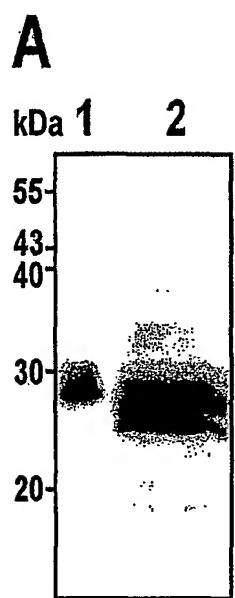


FIG. 11a

FIG. 11b

FIG. 11c

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|     |  |     |
|-----|--|-----|
| 1   | ATG AGT AAA GGA CCA GAA CTT TIC ACT GCA ATT GTC CCA ATT CTT ATT            | 48  |
| 1   | M S K G A E L F T G <del>H</del> V P I L I                                 | 16  |
| 49  | GAA TTA AAT CGT CAT GTT AAT GGG CAC AAA TIC TCT GTC AGT GGA GAG            | 96  |
| 17  | E L N G D V N G H K F S V S G E  | 32  |
| 97  | GCC GAA GGT GAT CGG ACA TAC CGA AAG TTA ACC CTT AAA TTT ATT TGC            | 144 |
| 33  | G E G D A T Y G K L T L K F I C  | 48  |
| 145 | ACT ACA GGA AAA CTA CCT GTT CCA TGG CCA ACA CTT GTC ACT ACT <del>GTC</del> | 192 |
| 49  | T T G K L P V P W P T L V T T <del>E</del>                                 | 64  |
| 193 | TCT TAT GGT GTT CAA TGC TTT TCA AGA TAT CCA GAT CAT ATG AAA CAG            | 240 |
| 65  | S Y G V Q C F S R Y P D H M K Q  | 80  |
| 241 | CAT GAC TIC TIC AAG AGT GCC ATG CCT GAA GGT TAT ATA CAG GAA AGA            | 288 |
| 81  | H D F F K S A M P E G Y I Q E R  | 96  |
| 289 | ACT ATA TTT TIC <del>GAA</del> GAT GAC GGG AAC TAC AAG TCG CGT GCT GAA GTC | 336 |
| 97  | T I F F <del>E</del> D D G N Y K S R A E V                                 | 112 |
| 337 | AAG TIC GAG GGT GAT ACC CTG GTT AAT AGA ATC GAG TTA ACA GGT ACT            | 384 |
| 113 | K F E G D T L V N R I E L T G T  | 128 |
| 385 | GAT TTT AAA GAA GAT GGA AAC ATC CTT GGA AAT AAA ATG GAA TAC AAC            | 432 |
| 129 | D F K E D G N I L G N K M E Y N  | 144 |
| 433 | TAT AAC GCA CAT AAT GTC TAC ATC ATG ACA GAC AAA GCA AAA AAT GCA            | 480 |
| 145 | Y N A H N V Y I M T D K A K N G  | 160 |
| 481 | ATC AAA GTT AAC TIC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT            | 528 |
| 161 | I K V N F K I R H N I E D G S V  | 176 |
| 529 | CAA CTT GCA GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT            | 576 |
| 177 | Q L A D H Y Q Q N T P I G D G P  | 192 |
| 577 | GTC CTT TTA CCA GAT AAC CAT TAC CTG TCC ACA CAA TCT <del>GCC</del> CTT TCC | 624 |
| 193 | V L L P D N H Y L S T Q S <del>A</del> L S                                 | 208 |
| 625 | AAA GAT CCC AAC GAA AAG AGA GAT CAC ATG ATC TAT TTT GAG TTT GIA            | 672 |
| 209 | K D P N E K R D H M I Y F E F V  | 224 |
| 673 | ACA GCT GCT GCG ATT ACA CAT GGC ATG GAT GAA CTA TAC AAA TAA                | 717 |
| 225 | T A A A I T H G M D E L Y K *  | 239 |

FIG. 12

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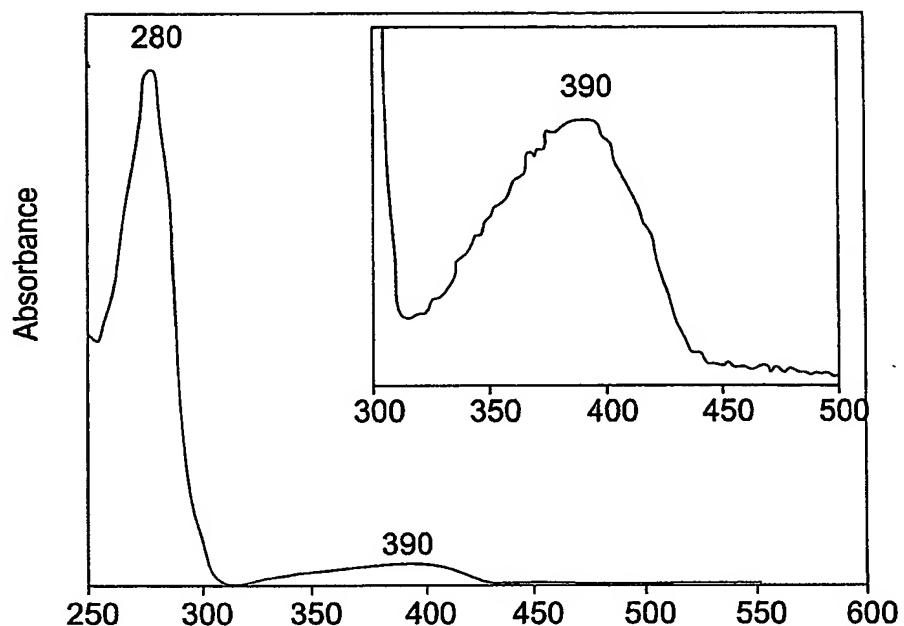


FIG. 13a

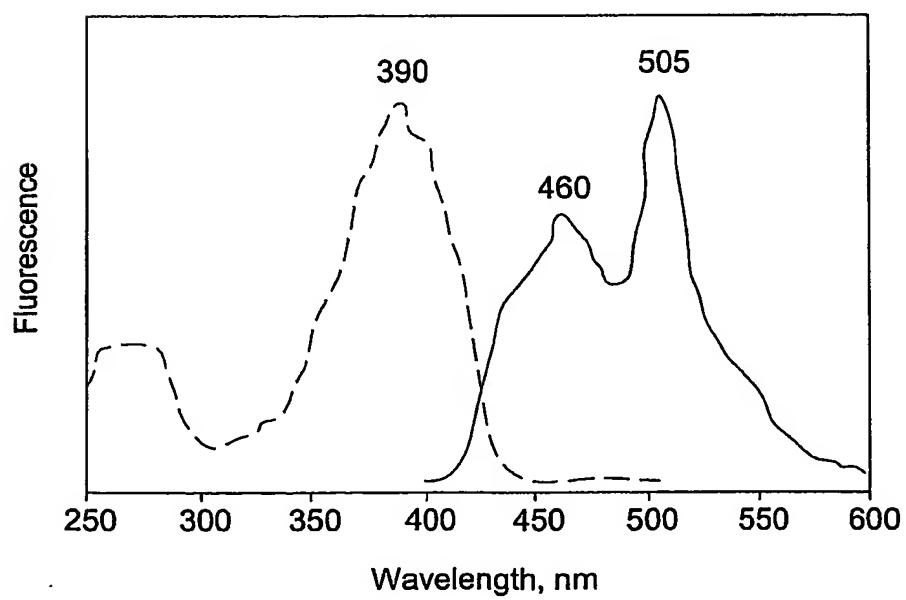


FIG. 13b

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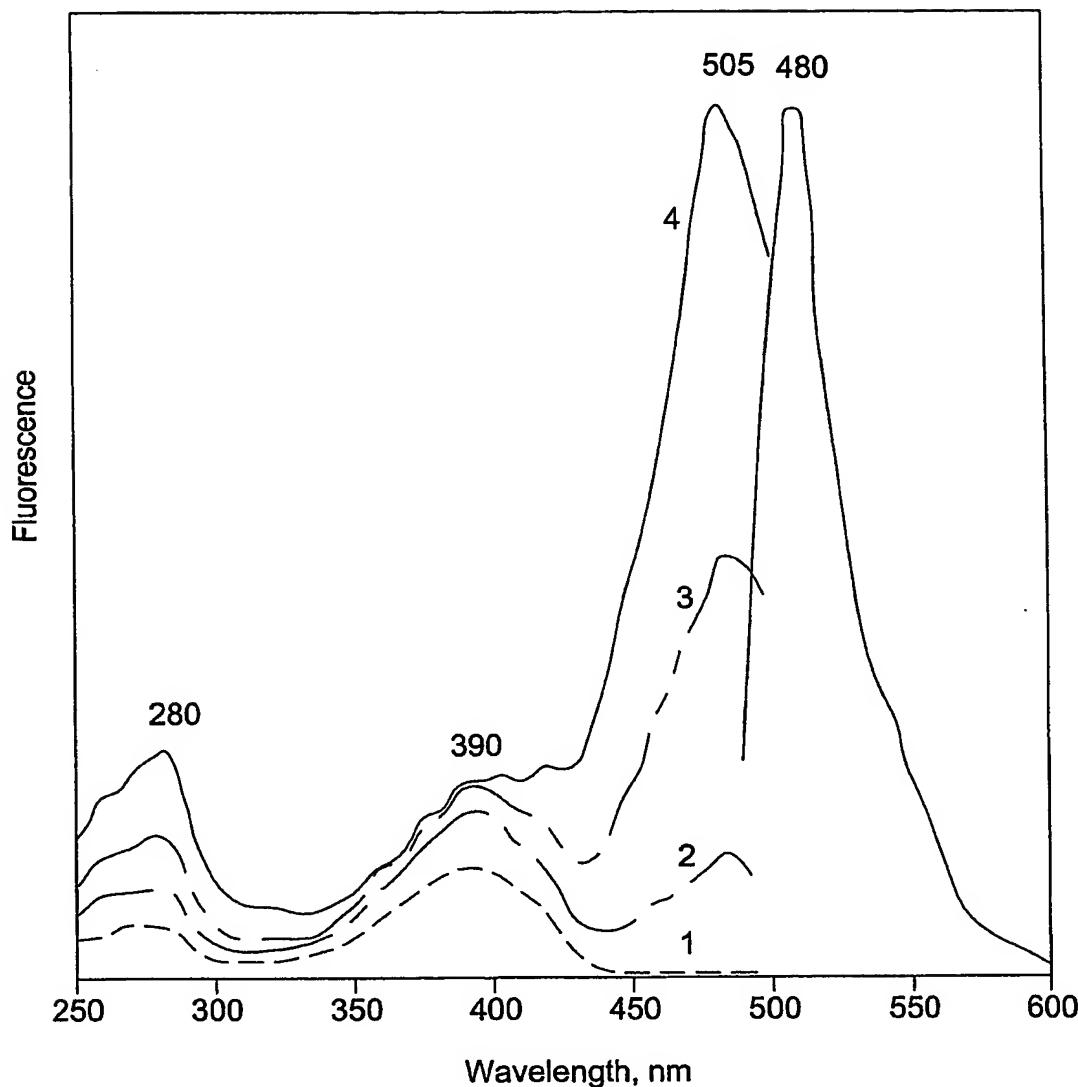


FIG. 14

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|     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|
| 1   | A | T | G | A | G | T | A | A | A | G | G | A | C | T | T | T | T | C | T | T | A | T | T |     | 48  |
| 1   | M | S | K | G | A | E | L | F | T | G |   | V | P | I | L | I |   |   |   |   |   |   |   |     | 16  |
| 49  | G | A | A | T | A | A | G | G | T | A | T | G | C | A | A | A | T | T | T | G | T | C | A | G   | 96  |
| 17  | E | L | N | G | D | V | N | G | H | K | F | S | V | S | G | E |   |   |   |   |   |   |   |     | 32  |
| 97  | G | G | C | A | G | G | G | T | G | A | C | T | G | A | A | T | T | A | T | T | G | C | A | T   | 144 |
| 33  | G | E | G | D | A | T | Y | G | K | L | T | L | K | F | I | C |   |   |   |   |   |   |   |     | 48  |
| 145 | A | C | T | A | C | G | A | A | C | T | G | T | G | C | A | C | A | T | A | T | G | C | A | T   | 192 |
| 49  | T | T | G | K | L | P | V | P | W | P | T | L | V | T | T | T | E |   |   |   |   |   |   |     | 64  |
| 193 | T | C | T | A | T | G | G | T | T | T | C | A | G | T | C | A | T | A | G | A | A | C | G | T   | 240 |
| 65  | S | Y | G | V | Q | C | F | S | R | Y | P | D | H | M | K | Q |   |   |   |   |   |   |   |     | 80  |
| 241 | C | A | T | G | T | T | A | A | G | A | G | T | G | C | A | T | T | A | T | A | C | G | G | A   | 288 |
| 81  | H | D | F | F | K | S | A | M | P | E | G | Y | I | Q | E | R |   |   |   |   |   |   |   |     | 96  |
| 289 | A | C | T | A | T | T | G | A | G | T | G | G | A | A | T | G | T | T | A | T | A | C | G | T   | 336 |
| 97  | T | I | F | F | E | D | D | G | N | Y | K | S | R | A | E | V |   |   |   |   |   |   |   |     | 112 |
| 337 | A | A | G | T | T | C | G | G | T | A | T | A | G | T | A | C | A | T | G | A | G | T | A | T   | 384 |
| 113 | K | F | E | G | D | T | L | V | N | R | I | E | L | T | G | T |   |   |   |   |   |   |   |     | 128 |
| 385 | G | A | T | T | A | A | G | G | A | A | T | C | T | G | A | A | A | A | T | G | A | T | A | 432 |     |
| 129 | D | F | K | E | D | G | N | I | L | G | N | K | M | E | Y | N |   |   |   |   |   |   |   |     | 144 |
| 433 | T | A | T | A | C | A | T | G | T | A | T | A | G | A | A | A | A | A | T | G | A | T | A | 480 |     |
| 145 | Y | N | A | H | N | V | Y | I | M | T | D | K | A | K | N | G |   |   |   |   |   |   |   |     | 160 |
| 481 | A | T | C | A | A | G | T | T | A | A | A | T | G | A | G | A | C | C | T | T | T | G | A | 528 |     |
| 161 | I | K | V | N | F | K | I | R | H | N | I | E | D | G | S | V |   |   |   |   |   |   |   |     | 176 |
| 529 | C | A | A | C | G | A | C | T | T | C | A | A | A | T | C | A | T | G | G | C | T | C | C | 576 |     |
| 177 | Q | L | A | D | H | Y | Q | Q | N | T | P | I | G | D | G | P |   |   |   |   |   |   |   |     | 192 |
| 577 | G | T | C | T | T | A | C | A | T | T | C | G | T | C | A | C | A | T | T | C | C | T | T | 624 |     |
| 193 | V | L | L | P | D | N | H | Y | L | S | T | Q | S | A | L | S |   |   |   |   |   |   |   |     | 208 |
| 625 | A | A | A | G | C | A | A | A | G | A | G | C | A | T | A | T | T | T | G | A | G | T | T | 672 |     |
| 209 | K | D | P | N | E | K | R | D | H | M | I | E | F | E | F | V |   |   |   |   |   |   |   |     | 224 |
| 673 | A | C | A | C | C | G | A | T | A | C | G | A | G | A | T | A | A | A | T | A | A | T | A | 717 |     |
| 225 | T | A | A | A | I | T | H | G | M | D | E | L | Y | K | * |   |   |   |   |   |   |   |   |     | 239 |

FIG. 15

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|     |   |                         |     |
|-----|---|-------------------------|-----|
| 1   | AIG AGT AAA GCA GCA GAA CTT TIC ACT GGA                         | ATT GTC CCA ATT CTT ATT | 48  |
| 1   | M S K G A E L F T G   | V P I L I               | 16  |
| 49  | GAA TTA AAT GGT GAT GGT AAT GGG CAC AAA TIC TGT GTC AGT GGA GAG |                         | 96  |
| 17  | E L N G D V N G H K F S V S G E                                 |                         | 32  |
| 97  | GGC GAA GGT GAT GCG ACA TAC GGA AAG TTA ACC CTT AAA TTT ATT TGC |                         | 144 |
| 33  | G E G D A T Y G K L T L K F I C                                 |                         | 48  |
| 145 | ACT ACA GGA AAA CTA CCT GGT CCA TGG CCA ACA CTT GTC ACT ACT     | GTC                     | 192 |
| 49  | T T G K L P V P W P T L V T T E                                 |                         | 64  |
| 193 | TCT TAT GGT GGT CAA TGC TTT TCA AGA TAT CCA GAT CAT ATG AAA CAG |                         | 240 |
| 65  | S Y G A Q C F S R Y P D H M K Q                                 |                         | 80  |
| 241 | CAT GAC TIC TIC AAG AGT GCC ATG CCT GAA GGT TAT ATA CAG GAA AGA |                         | 288 |
| 81  | H D F F K S A M P E G Y I Q E R                                 |                         | 96  |
| 289 | ACT ATA TTT TIC GAA GAT GAC GGG AAC TAC AAG TCG CGT GCT GAA GTC |                         | 336 |
| 97  | T I F F E D D G N Y K S R A E V                                 |                         | 112 |
| 337 | AAG TIC AAG GGT GAT ACC CTC GGT AAT AGA ATC GAG TTA ACA GGT ACT |                         | 384 |
| 113 | K F K G D T L V N R I E L T G T                                 |                         | 128 |
| 385 | GAT TTT AAA GAA GAT GGA AAC ATC CTT GGA AAT AAA ATG GAA TAC AAC |                         | 432 |
| 129 | D F K E D G N I L G N K M E Y N                                 |                         | 144 |
| 433 | TAT AAC GCA CAG AAT GTC TAC ATC ATG ACA GAC AAA GCA AAA AAT GGA |                         | 480 |
| 145 | Y N A Q N V Y I M T D K A K N G                                 |                         | 160 |
| 481 | ATC AAA GGT AAC TIC AAA ATT AGA CAC AAC ATT GAA GAT GGA ACC GGT |                         | 528 |
| 161 | I K V N F K I R H N I E D G S V                                 |                         | 176 |
| 529 | CAA CTT GCA GAC CAT TAT CAA CAA AAT ACT CCA ATT GCC GAT GGC CCT |                         | 576 |
| 177 | Q L A D H Y Q Q N T P I G D G P                                 |                         | 192 |
| 577 | GTC CTT TTA CCA GAT AAC CAT TAC CTC TCC ACA CAA TCT GGC CTT TCC |                         | 624 |
| 193 | V L L P D N H Y L S T Q S A L S                                 |                         | 208 |
| 625 | AAA GAT CCC AAC GAA AAG AGA GAT CAC ATG ATC GCG GAG TTT GTC     |                         | 672 |
| 209 | K D P N E K R D H M I T E E F V                                 |                         | 224 |
| 673 | ACA GCT GCT GCG ATT ACA CAT CGC ATG GAT GAA CTC TAC GAA TAA     |                         | 717 |
| 225 | T A A A I T H G M D E L Y Q *                                   |                         | 239 |

FIG. 17

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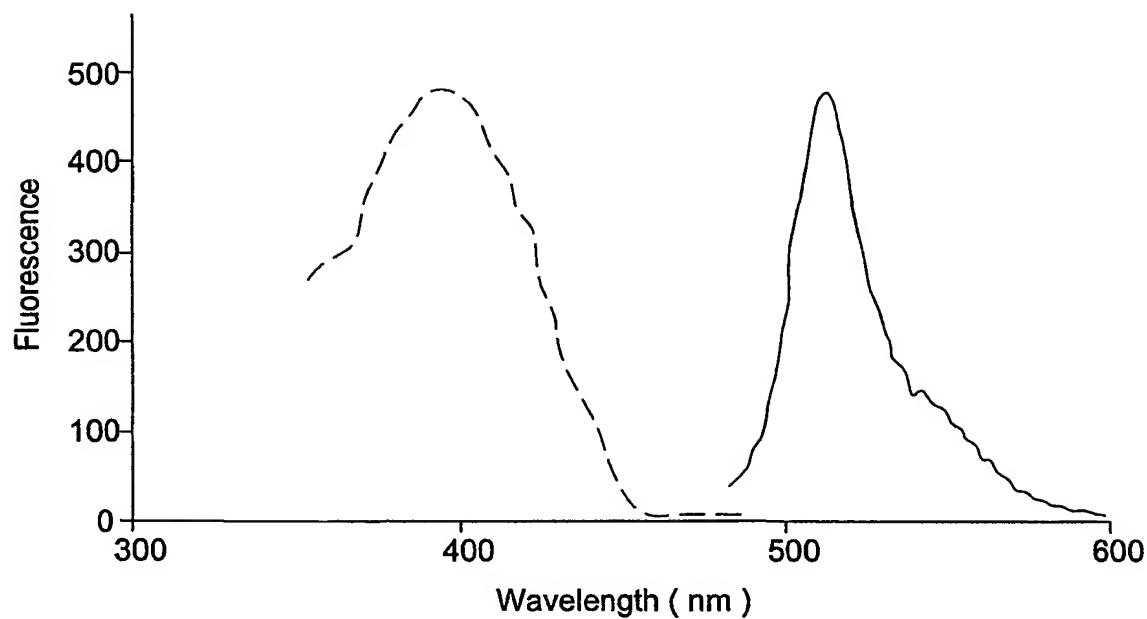


FIG. 18a

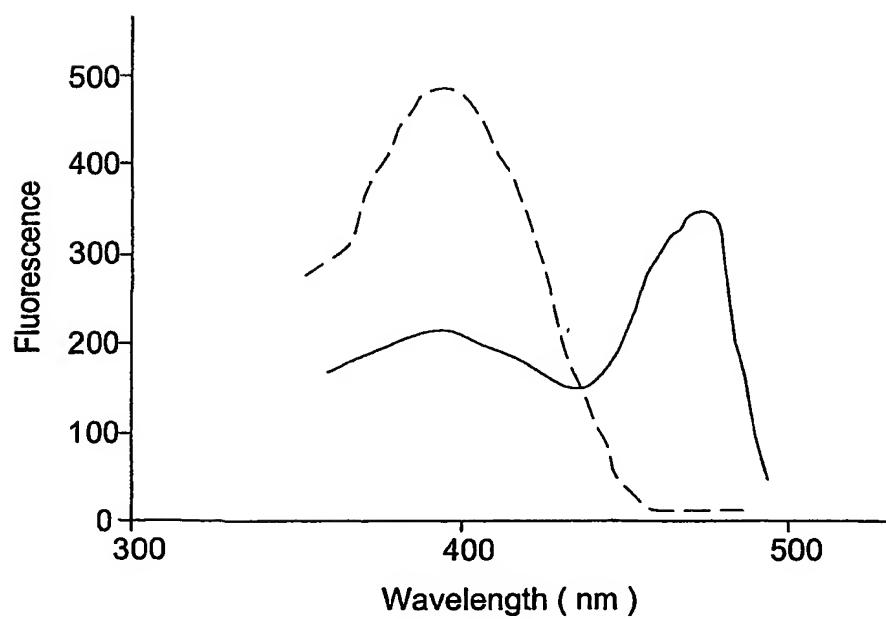


FIG. 18b

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|     |   |                                     |     |
|-----|---|-------------------------------------|-----|
| 1   | A T G A G T A A A C G A G C A G A C T T C T C A C T G G A   | T T T G I C C C A A T T C T T A T T | 48  |
| 1   | M S K G A E L F T G   | V P I L I                           | 16  |
| 49  | C A A T T A A A T C C T G A T G T T A A T C G G C A C A A A                                       | T T C T G I C A G T G G A G A G     | 96  |
| 17  | E L N G D V N G H K F S V S G E   |                                     | 32  |
| 97  | G G C G A A G G T G A T G G G A C A T A C G G A A A G T T A A C C                                 | C T T A A A T T T A T T T G C       | 144 |
| 33  | G E G D A T Y G K L T L K F I C   |                                     | 48  |
| 145 | A C T A C A G G A A A A C T A C C T G T T C C A T G G G C C A A C A C T C T G I C                 | T C T A C T G I C                   | 192 |
| 49  | T T G K L P V P W P T L V A T E   |                                     | 64  |
| 193 | T C T T A T G G T G T C A A T G C T T T C A A G A T A T C C A G A T C A T A T G A A A C A G       |                                     | 240 |
| 65  | S Y G V Q C F S R Y P D H M K Q   |                                     | 80  |
| 241 | C A T G A C T T C T C A A G A G T G C C T G A A G G T T A T A T C A G G A A G A                   |                                     | 288 |
| 81  | H D F F K S A M P E G Y I Q E R   |                                     | 96  |
| 289 | A C T A T A T T T T C G A A G A T G A C G G G A A C T A C A A G T C G C G T G C T G A A G I C     |                                     | 336 |
| 97  | T I F F E D D G N Y K S R A E V   |                                     | 112 |
| 337 | A A G T T C G A G G G T G A T A C C C T G G T A G T A G A A T C G A G T T A A A C A G G T A C T   |                                     | 384 |
| 113 | K F E G D T L V S R I E L T G T   |                                     | 128 |
| 385 | G A T T T A A A G A A G A T G G A A A C A T C T G A A A A T A A T A T G G A A T A C A A C         |                                     | 432 |
| 129 | D F K E D G N I L G N K M E Y N   |                                     | 144 |
| 433 | T A T A A C G C A A G T A A T G T A T A C A T C A G A C A A A G C A A A A A T G G A               |                                     | 480 |
| 145 | Y N A T N V Y I M T D K A K N G   |                                     | 160 |
| 481 | A T C A A A G T A A C T T C T A A A A T A G A C A C A A C T T G A A G A T G G A A G C G T T       |                                     | 528 |
| 161 | I K V N F K I R H N I K D G S V   |                                     | 176 |
| 529 | C A A C T T G C A G A C C A T T A T C A A C A A A A T A C T C C A A T T G C C G A T G C C C T     |                                     | 576 |
| 177 | Q L A D H Y Q Q N T P I G D G P   |                                     | 192 |
| 577 | G I C C T T A A C C A G A T A A C C A T T A C C T G I G T C C A C A C A A T C T G C C C T T T C C |                                     | 624 |
| 193 | V L L P D N H Y L S T Q S A L S   |                                     | 208 |
| 625 | A A A G A T C C C A A C G A A A A G A G A T C A C A T G A T A T G A T T T T G A G T T T G T A     |                                     | 672 |
| 209 | K D P N E K R D H M I Y F E F V   |                                     | 224 |
| 673 | A C A G C T G C T G C G A T T A C A C A T G G C A T G A T G A A C T A T A C A A A T A A A         |                                     | 717 |
| 225 | T A A A A I T H G M D E L Y K *   |                                     | 239 |

FIG. 19

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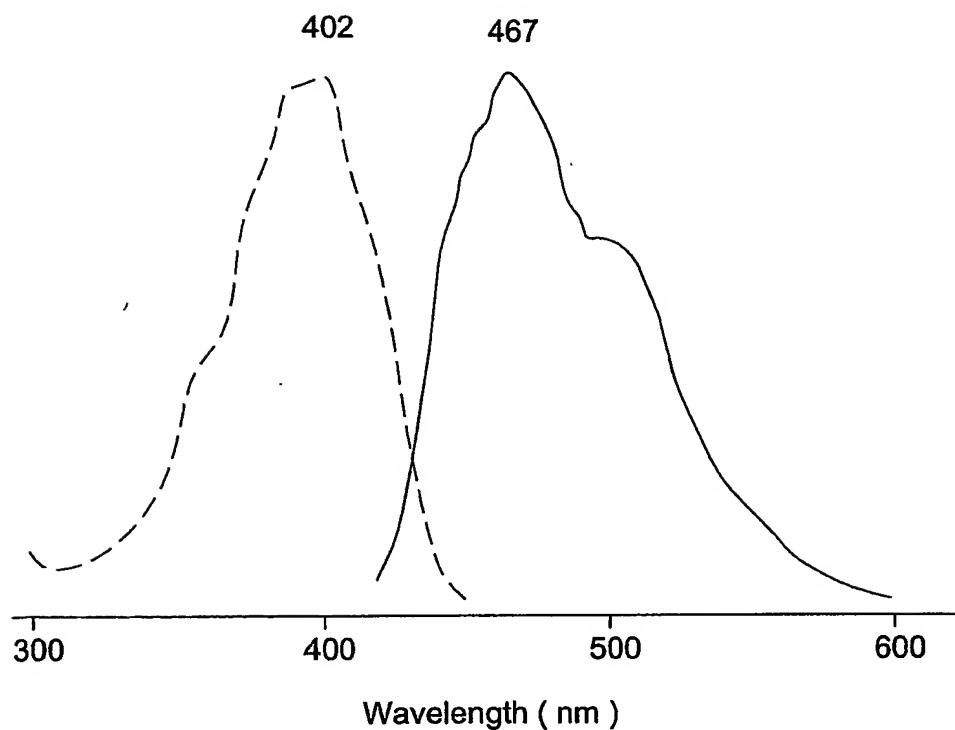


FIG. 20

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|     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |    |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|----|
| 1   | A | T | G | A | G | T | A | A | A | G | G | A | G | C | A | G | T | G | C | C | A | A | T | C | T   | A   | 48 |
| 1   | M | S | K | G | A | E | L | F | T | G | H | V | P | I | L | I |   |   |   |   |   |   |   |   |     | 16  |    |
| 49  | G | A | A | T | A | A | G | G | T | G | T | A | A | G | G | C | A | C | A | G | T | G | G | A | G   | 96  |    |
| 17  | E | L | N | G | D | V | N | G | H | K | F | S | V | S | G | E |   |   |   |   |   |   |   |   |     | 32  |    |
| 97  | G | G | C | A | A | G | G | T | G | G | A | C | A | T | G | A | G | T | T | A | A | T | T | T | T   | 144 |    |
| 33  | G | E | G | D | A | T | Y | G | K | L | T | L | K | F | I | C |   |   |   |   |   |   |   |   |     | 48  |    |
| 145 | A | C | T | A | C | A | G | A | A | T | C | T | G | T | G | C | A | C | T | A | C | T | G | C | 192 |     |    |
| 49  | T | T | G | K | L | P | V | P | W | P | T | L | V | T | T | L |   |   |   |   |   |   |   |   |     | 64  |    |
| 193 | T | C | T | A | T | G | G | T | T | C | A | G | A | T | T | C | A | G | T | A | T | G | A | A | 240 |     |    |
| 65  | S | Y | G | V | Q | C | F | S | R | Y | P | D | H | M | K | Q |   |   |   |   |   |   |   |   |     | 80  |    |
| 241 | C | A | T | G | A | C | T | A | G | A | G | T | G | C | A | T | A | T | A | C | G | G | A | A | 288 |     |    |
| 81  | H | D | F | F | K | S | A | M | P | E | G | Y | I | Q | E | R |   |   |   |   |   |   |   |   |     | 96  |    |
| 289 | A | C | T | A | T | G | G | A | C | A | G | T | G | C | G | T | G | A | G | T | C | G | C | T | 336 |     |    |
| 97  | T | I | F | F | E | D | D | G | N | Y | K | S | R | A | E | V |   |   |   |   |   |   |   |   |     | 112 |    |
| 337 | A | A | G | T | T | C | G | G | T | G | A | C | T | G | A | G | T | T | A | C | A | G | T | A | 384 |     |    |
| 113 | K | F | E | G | D | T | L | V | N | R | I | E | L | T | G | T |   |   |   |   |   |   |   |   |     | 128 |    |
| 385 | G | A | T | T | A | A | G | A | G | A | A | T | C | T | G | A | A | A | A | T | G | A | T | A | 432 |     |    |
| 129 | D | F | K | E | D | G | N | I | L | G | N | K | M | E | Y | N |   |   |   |   |   |   |   |   |     | 144 |    |
| 433 | T | A | T | A | C | G | T | A | T | A | T | A | G | A | C | A | A | A | A | G | A | G | T | A | 480 |     |    |
| 145 | Y | N | A | S | N | V | Y | I | M | T | D | K | A | K | N | G |   |   |   |   |   |   |   |   |     | 160 |    |
| 481 | A | T | C | A | A | G | T | G | A | A | T | A | G | A | C | A | A | T | G | G | A | G | C | G | 528 |     |    |
| 161 | I | K | V | N | E | K | I | R | H | N | I | A | D | G | S | V |   |   |   |   |   |   |   |   |     | 176 |    |
| 529 | C | A | A | C | G | C | A | T | T | C | A | A | A | T | A | C | T | A | T | G | G | C | T | C | 576 |     |    |
| 177 | Q | L | A | D | H | Y | Q | Q | N | T | P | I | G | D | G | P |   |   |   |   |   |   |   |   |     | 192 |    |
| 577 | G | T | C | T | T | A | C | A | T | T | C | G | T | C | A | C | A | T | T | C | G | C | T | T | 624 |     |    |
| 193 | V | L | L | P | D | N | H | Y | L | S | T | Q | S | A | L | S |   |   |   |   |   |   |   |   |     | 208 |    |
| 625 | A | A | A | G | C | A | A | G | A | G | A | T | C | A | T | T | T | G | A | G | T | T | T | G | 672 |     |    |
| 209 | K | D | P | N | E | K | R | D | H | M | I | Y | F | E | F | V |   |   |   |   |   |   |   |   |     | 224 |    |
| 673 | A | C | A | C | G | T | G | G | A | T | A | C | A | T | G | A | G | A | C | A | T | A | A | A | 717 |     |    |
| 225 | T | A | A | A | I | T | H | G | M | D | E | L | I | K | * |   |   |   |   |   |   |   |   |   |     | 239 |    |

FIG. 21

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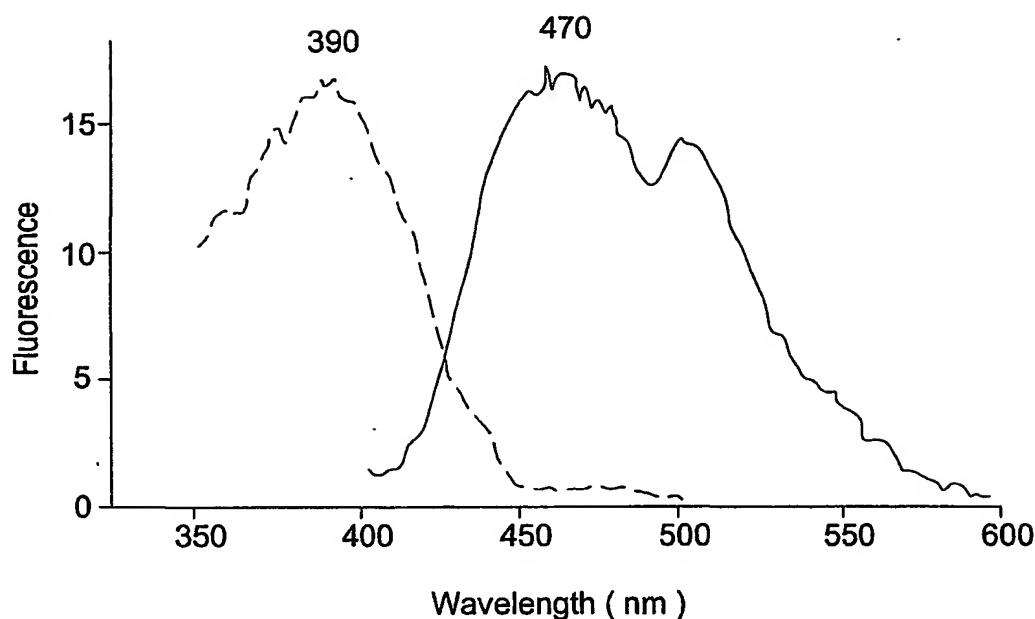


FIG. 22a

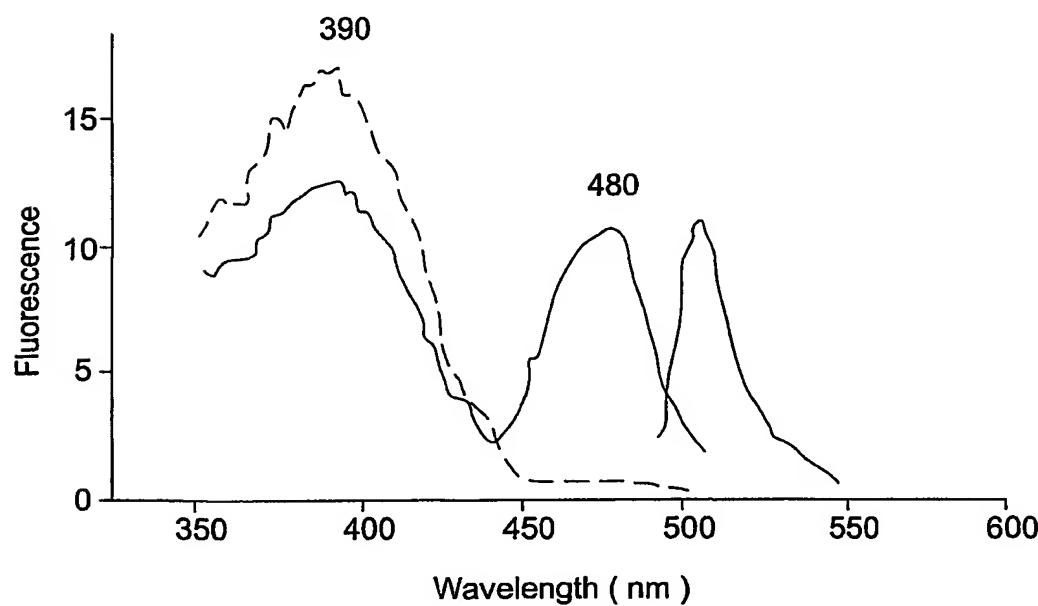


FIG. 22b

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|     |   |     |
|-----|---|-----|
| 1   | ATGAGCAAGGGCGCCGAGCTGTTACCGGCATCGTGCCCATCCTGATC   | 48  |
| 1   | M S K G A E L F T G I V P I L I                   | 16  |
| 49  | GAGCTGAATGGCGATGTGAATGGCCACAAGTTCAGCGTGAGCGCGAG   | 96  |
| 17  | E L N G D V N G H K F S V S G E                   | 32  |
| 97  | GGCGAGGGCGATGCCACCTACGGCAAGCTGACCCCTGAAGTTCATCTGC | 144 |
| 33  | G E G D A T Y G K L T L K F I C                   | 48  |
| 145 | ACCACCGGCAAGCTGCCTGTGCCCTGGCCCACCCCTGGTGACCACCTG  | 192 |
| 49  | T T G K L P V P W P T L V T T L                   | 64  |
| 193 | AGCTACGGCGTGCAGTGCTTCACGCTACCCGATCACATGAAGCAG     | 240 |
| 65  | S Y G V Q C F S R Y P D H M K Q                   | 80  |
| 241 | CACGACTTCTCAAGAGCGCCATGCCTGAGGGCTACATCCAGGAGGCC   | 288 |
| 81  | H D F F K S A M P E G Y I Q E R                   | 96  |
| 289 | ACCATCTTCTCGAGGATGACGGCAACTACAAGTCGCGCGCCGAGGTG   | 336 |
| 97  | T I F F E D D G N Y K S R A E V                   | 112 |
| 337 | AAGTTCGAGGGCGATAACCTGGTGAATCGCATCGAGCTGACCGGCACC  | 384 |
| 113 | K F E G D T L V N R I E L T G T                   | 128 |
| 385 | GATTCAAGGAGGATGGCAACATCCTGGCAATAAGATGGAGTACAAC    | 432 |
| 129 | D F K E D G N I L G N K M E Y N                   | 144 |
| 433 | TACAACGCCAACAAATGTGTACATCATGACCGACAAGGCCAAGAATGGC | 480 |
| 145 | Y N A H N V Y I M T D K A K N G                   | 160 |
| 481 | ATCAAGGTGAACCTCAAGATCCGCCACAAACATCGAGGATGCCAGCGTG | 528 |
| 161 | I K V N F K I R H N I E D G S V                   | 176 |
| 529 | CAGCTGGCCGACCACTACCAGCAGAATAACCCCATCGCGATGGCCCT   | 576 |
| 177 | Q L A D H Y Q Q N T P I G D G P                   | 192 |
| 577 | GTGCTGCTGCCGATAACCACTACCI GTCCACCCAGAGGCCCTGTCC   | 624 |
| 193 | V L L P D N H Y L S T Q S A L S                   | 208 |
| 625 | AAGGACCCCAACGAGAAGCGCGATCACATGATCTACTTCGGCTTCGTG  | 672 |
| 209 | K D P N E K R D H M I Y F G F V                   | 224 |
| 673 | ACCGCCGCCGCATCACCCACGGCATGGATGAGCTGTACAAGTGA      | 717 |
| 225 | T A A A I T H G M D E L Y K *                     | 239 |

FIG. 23

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FIG. 24a

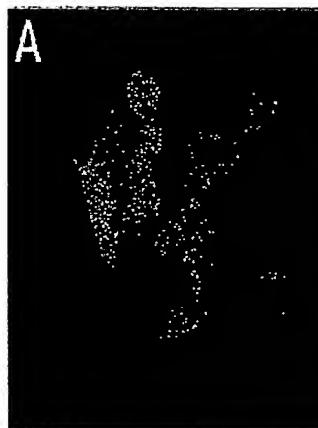


FIG. 24b

FIG. 24c



FIG. 24d

FIG. 24e

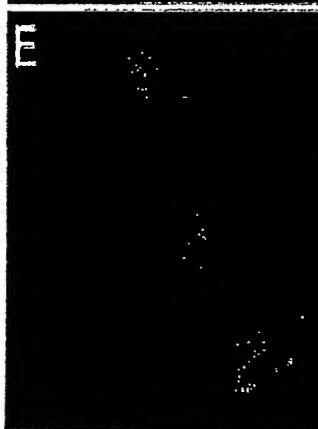


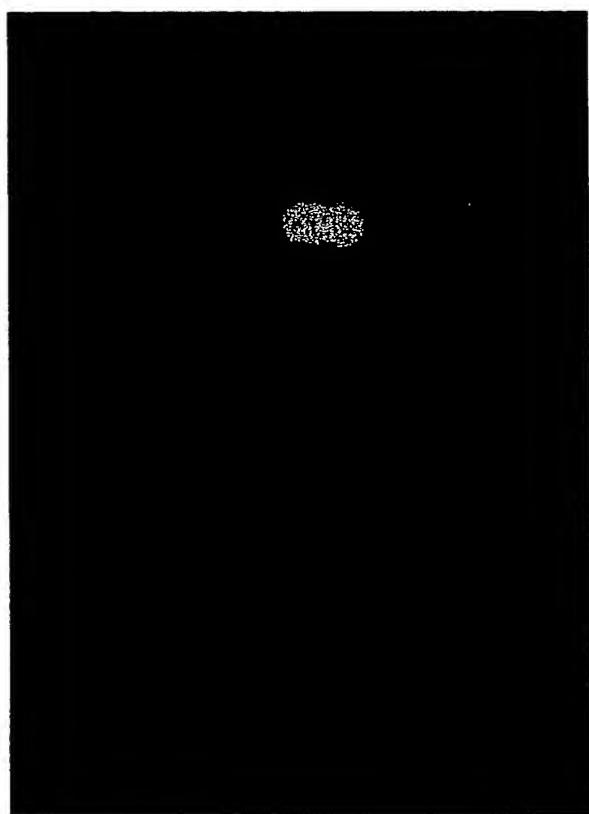
FIG. 24f

**10/501629**

**WO 03/062270**

**PCT/IB03/00907**

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**FIG. 25**

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